METHODS AND MATERIALS OF MARIA MONTESSORI FOR USE IN KINDERGARTEN

by

RUTH ANN SIMPSON

B. S., Kansas State University, 1963

A MASTER'S REPORT

submitted in partial fulfillment of the

requirements for the degree

MASTER OF SCIENCE

College of Education

KANSAS STATE UNIVERSITY
Manhattan, Kansas

1967

Approved by:

Harry McAnarney
Major Professor

LD
2668
R4
1967
S613
c.2

ACKNOWLEDGMENT

The writer wishes to express deep appreciation to Dr. Harry McAnarney of the College of Education, Kansas State University for his interest, advice and encouragement in this study.

TABLE OF CONTENTS

		PAGE
I.	THE PROBLEM AND DEFINITIONS OF TERMS	1
	The Problem	1
	Statement of the problem	1
	Importance of the study	1
	Research Procedure	2
	Limits of the Study	2
	Definitions of Terms Used	2
	Kindergarten	2
	Montessori Method	2
II.	REVIEW OF THE LITERATURE	3
	History of the Montessori Movement	3
	Dr. Montessori's Life	3
	Montessori in Europe	5
	Montessori in the United States	6
	A Description of a Montessori School	7
	Physical appearance	7
	Prepared environment	8
	Discipline	9
	The role of the teacher	12
	Daily class routine	14
	Limitations	15
	Montessori Materials	16
	Presentation of materials	17
	Materials for practical life	18

PAGE

Materials for development of the senses 20

Materials for final phases 21

What Research Says 23

III. SUMMARY AND CONCLUSION 24

Summary 25

Conclusion 25

IV. BIBLIOGRAPHY 29

THE PROBLEM AND DEFINITIONS OF TERMS

In the last few years, the elementary schools have been pushed to add more advanced concepts to the curriculum. Many interesting additions have been made, but the writer is concerned because some educators and parents are advocating the teaching of reading in kindergarten.[1] It does not seem that the average five year old would benefit from being taught to read but that he would gain more from having time to learn to get along with others in a happy and relaxed atmosphere and to have many chances to achieve success. It does appear to the writer that there is need for improvement in the present kindergarten program and that this program could gain from the use of selected Montessori materials.

THE PROBLEM

Statement of the problem. The problem was: (1) to study the development of the Montessori Method, (2) to study the methods and materials used by Maria Montessori, and (3) to discover some methods and materials from this approach to learning which could be adapted for use in kindergartens.

Importance of the study. Even though the values of the kindergarten are many, it is important that this early part of a child's education be kept up to date. Teachers must be aware of new ideas and test those which seem to be applicable in classrooms. The Montessori

---

[1] J. A. Morris, "Can Our Children Learn Faster?", Saturday Evening Post, 234:18, September 23, 1961.

Method is not a new concept in education, but its revival in this country is relatively recent. Perhaps parts of this method can be utilized by kindergarten teachers to bring the program up to date and create new interest for both children and teachers.

RESEARCH PROCEDURE

With the kindergarten program in mind, the writer decided (1) to read as much as possible about the history and methods of the Montessori Schools, (2) to visit the High Lawn Montessori School in Shawnee Mission, and (3) to bring together some methods and materials developed by Maria Montessori to use in kindergarten.

LIMITS OF THE STUDY

For the purposes of this study, the kindergarten will refer to the public school kindergarten rather than to the private kindergarten.

DEFINITIONS OF TERMS USED

Kindergarten. The kindergarten is an educational section of a school system characterized by organized play activities having educational and socializing values. The kindergarten provides opportunities for self-expression and training in how to work and live together harmoniously. The environment, materials, curriculum, and program are carefully selected to provide for child growth and development.[1]

Montessori Method. The Montessori Method is a method of primary and preprimary instruction developed by Maria Montessori, an Italian psychiatrist and former pupil of Seguin and Itard. Based on the

---

[1]Carter S. Good, Dictionary of Education (New York: Mc Graw-Hill Book Co., Inc., 1959), p. 351.

"faculty" psychology, this method emphasises free physical activity, individual instruction, early development of reading and writing skills, and extensive sensory and motor training. Introduced originally in Italy, the method spread to England and to the United States but has been generally abandoned here in favor of the Froebelian methods.[1]

HISTORY OF THE MONTESSORI MOVEMENT

Dr. Montessori's Life. Maria Montessori was born in 1870 at Chiaravalle in the province of Ancona, Italy. She was the only child from a good family and was given a good education in the sciences. Maria defied Italian tradition and became the first woman in Italy to enroll and graduate from the University of Rome Medical School. After her graduation as a doctor, she did postgraduate work in philosophy and psychology at the Psychiatric Clinic at the University.[2]

Her success as a student was brilliant enough to promise a bright future as a physician but it was her medical training which led her into the educational field. Her first step in that direction came when as an Assistant Doctor at the Psychiatric Clinic at the University of Rome she frequently visited the slums and insane hospitals for possible subjects. She became especially interested in diseases of defective children and in the social problems of the poor. She attacked this problem and came to the conclusion that idiocy was not the problem of the doctor only, but of the teacher as well. In addition, she concluded that pedagogy more than medicine could improve conditions. The

---

[1]Ibid., p. 351.

[2]Nancy M. Rambusch, Learning How to Learn, (New York: Rinehart & Co., 1950), p. 14.

outgrowth of her agitation of this theory lead to the establishment of the State Orthophrenic School in 1899, of which she became head.[1]

She searched literature for information in training defective children and found the writing of Itard and Seguin. She started to apply Seguin's principles of education. Perhaps some of her ideas for didactic materials and geometric insets developed as a result of the Seguin Form Board. She was even more convinced than he that the proper treatment of mental deficiency in children was more an educational problem than a medical problem.[2]

Montessori combined the discipline and training of medicine with tremendous intuitive gifts. Her discovery that the children in the Orthophrenic School, who had been diagnosed as idiots, were capable of reading, writing and passing the Roman public school exams, convinced Dr. Montessori that normal school children were capable of a great deal more that was customarily expected of them. She realized if this visual motor involvement could be utilized by the slow learner, then it should be equally valuable for stimulating the acquisition of perception in normal children and if applied would develop their personalities in a marvelous way.[3]

In 1900 she decided to devote her time toward working with normal children. She wanted to introduce into the common schools some of the techniques she had used so effectively with defective children.

---

[1]Florence Elizabeth Ward, The Montessori Method and the American School, (New York: The Macmillan Co., 1913), pp. 3-4.

[2]Rambusch, op. cit., p. 14.

[3]Ibid., p. 135.

For seven years, she carried on independent investigations with small groups of school children in preparation for the main work of her life.[1]

As a Professor of Anthropology at the University of Rome in 1907, Dr. Montessori initiated her first Casa dei Bambini (Children's House) in a tenement of Rome. She was able to provide custodial care for young tenement children with the hopes of preventing vandalism. From that time on, Dr. Montessori spent her life lecturing, writing, directing research, and establishing in her wake teacher training centers and schools.[2] She believed that the years from 3 to 6 were of utmost importance for the development of memory, reason and will and that this was also the time for the development of the ability to make decisions and for the construction of the individual.

Montessori in Europe. Acceptance of Montessori's theories and practices was quite widespread in the European countries and England. Wherever she went giving lectures and telling of her personal experiences, she left behind interested groups who established schools of their own. Many of the public schools in Europe today employ Montessori methods.

Montessori schools were opened throughout Italy and in time schools were established in England, France, Germany, Ireland, and Spain. In Russia the czar introduced the method at the St. Petersburg Court School. During the same period, the Communist Congress of Berne proclaimed its approval of the technique. The method was introduced into the kindergartens of New South Wales, Australia in 1912. In Holland,

---

[1]Ibid., p. 14.

[2]Ibid.

a Montessori pupil named Anne Frank wrote a famous diary. In addition, many schools were established in India.[1]

Montessori in the United States. Dr. Montessori came to our country fifty years ago to lecture and make known her ideas and methods. After her visit she was attacked on the basis of educational theory[2] and on the basis of educational practices.[3] They accused her of an inconsistency between theory and practice. Her methods were rigid while her philosophy called for flexibility.

In 1916 there were nearly two hundred authorised schools in the United States and countless others using her name,[4] but the Montessori movement had disappeared from the American scene by the mid-1920's because of the strong appeal of the tenets of "progressive education" and "child-centered education" which were being developed by Francis Parker, John Dewey, and William Kilpatrick.[5]

In the United States the recent revival of Montessori was first concentrated largely in Catholic circles and among young married couples and the upper-middle and middle class.[6] The Catholic clergy

---

[1]J. A. Morris, "Can Our Children Learn Faster?", Saturday Evening Post, 234:20, September 23, 1961.

[2]William H. Kilpatrick, The Montessori System Examined, (Boston: Houghton Mifflin Co., 1914).

[3]Arnold L. Gesell and Beatrice C. Gesell, The Normal Child and Primary Education, (Boston: The Athenaeum Press, Ginn & Co., 1912).

[4]Benjamin Spock and Mildred L. Hathaway, "Montessori and Traditional American Nursery Schools - How They are Different, How They are Alike", Redbook Magazine, 128:20, March, 1967.

[5]Ibid., p. 22.

[6]A. J. Clark, "Evaluation of Montessori Postulates in the Light of Empirical Research", Catholic Educational Review, 61:8, January, 1963.

and laymen had been slow in accepting the nursery schools because of their casual atmosphere and the fear that family and religious ties could be weakened if mothers relegated the rearing of their young children to secular educators. The discipline of the Montessori method and the emphasis on a planned sequence of activities designed to lead to academic work appealed to them. Even though many schools were established by groups of Catholic parents, it is now reported that the majority are nondenominational.[1]

Most people reading the original writings of Montessori do not realize that there are two groups of Montessorians. The International Montessorians are very rigid and would never change anything. They regard Montessori as 'being sent from heaven with her ten commandments'. The American Montessori was revived by Nancy Rambusch and she had adapted and made changes in it to fit our way of life.[2]

A DESCRIPTION OF A MONTESSORI SCHOOL

Physical appearance. A Montessori classroom looks much the same as a modern kindergarten. A large well lighted room painted in light colors to be easy on the eyes was recommended by Montessori. Decorations are few and the only pictures are old favorites of children or paintings which the children have made themselves. Montessori must be given credit for developing the child size furniture which we see not only in her classrooms but also in every kindergarten and primary classroom. The low open shelves are also attributed to Dr. Montessori. There

---

[1] Spock and Hathaway, op. cit., p. 24.

[2] Statement by Dr. Helen Billings, Directress of Highlawn Montessori School, personal interview.

is a sense of order in the layout and much open floor space permitting children to work on the floor. The absence of a teacher's desk is noticeable. Adjoining the classroom should be a large outdoor play area with garden space available for each child.

Prepared environment. The prepared environment is designed by the adult before the child's entrance. Physical and psychological situations are made ready to enhance the opportunity for the children to learn through the experiences provided. The environment is designed to help the child achieve a sense of himself, self-mastery, and mastery of the environment through successful execution and repetition of tasks related to cultural expectations of their future. Children are permitted to express themselves freely and thus they reveal their needs and aptitudes. The environment must be prepared so that these natural characteristics will show up.

Montessori believed that order is a must for the young child. Since almost everything is new to a child we must not add to his frustrations by changing his physical surroundings. A Montessori classroom tries to avoid the lowering of confidence by preparing the environment with great care and so maintaining this order. The responsibility for maintaining order is assumed by the child when he is in the classroom, but it must be neat, clean, orderly, and ready for the child. A child can expect to find each apparatus in its own specific place each day.

Montessori believed that education was a preparation for life, not merely the search for intellectual skills. Each child has his

own intuitive aim, his self-development. If a child is not allowed to follow his curiosity, he loses interest, but in a stimulating environment he gains a joy for learning and a self-motivation which he will never lose.

The kindergarten also provides a prepared environment to give children a maximum of stimulation for learning. Perhaps less stress is placed on order depending upon the teacher, but the teacher is constantly working to arouse interest and to motivate her class toward further learning.

Discipline. One of Dr. Montessori's principles is the principle of freedom or "liberty within limits". Liberty is activity and discipline comes through liberty. Liberty must be guided through activity to independence. Montessori believes that a child can be called disciplined when he is master of himself and can regulate his own conduct, and not merely when he is silent. This discipline is not limited to the school but extends itself to society.[1]

The writer feels that teachers agree with Montessori that if discipline is to be lasting, its foundations must be laid slowly and carefully and that the first few days of school are the most difficult. The first idea for the child to acquire, to be actively disciplined, is to learn the difference between right and wrong. The task of the educator is to see that the child does not confuse good with immobility and bad with activity as often happens in old time discipline. Our aim is to discipline for activity and work, not for passivity.

---

[1]Maria Montessori, The Montessori Method, (Cambridge, Mass.: Robert Bentley, Inc., 1965), p. 87.

Dr. Montessori knew that complete freedom was impossible. She placed the burden of control upon the children and they responded by learning to direct their own activity. The liberty of the children has as its limit the collective interests of the group. Pupils learned to control themselves because they discovered that by so doing they could accomplish the things their interest encouraged them to accomplish.[1]

Self-discipline is induced in a child in a prepared environment. The ability to shift from one activity to another necessitates the ability to initiate, carry through, and complete tasks in such a way as not to disturb the other children with change of activities. The child is taught that there is a correct way to do almost everything. A basic part of self-discipline is the child's awareness of his own competence. The child develops a concept of work and through work he achieves a sense of satisfaction and purpose. Needful repetition is a part of self-discipline.[2]

Montessori believed that cultivation of silence is the fruit of the young child's self-mastery. A child who is not quiet is not disciplined. Silence is not merely the cessation of speech but the attention of one's whole being. The child is not disciplined who is kept quiet only because of the fearful presence of an adult.[3]

---

[1]Luella Cole, A History of Education: Socrates to Montessori, (New York: Rinehart & Co., 1950), p. 567.

[2]Nancy M. Rambusch, Learning How to Learn, (New York: Rinehart & Co., 1950), p. 45.

[3]Ibid., p. 47.

Discipline resides in three areas in a Montessori class: in the controlled environment, in the teacher who is controlled and ready to assume the authoritarian role if and when necessary, and in the children.[1]

If a child becomes disorderly or destructive the teacher intervenes. Part of the concept of the prepared environment is its preservation for the whole group. The teacher then isolates the child's freedom rather than isolating him from the group as is usually done in a kindergarten situation. The child must work near the teacher and move with her when she moves. When he feels capable of working independently again, he is free to do so.

The prepared environment establishes certain rules of behavior for the children. The work of the children with the didactic materials is meant to be independent but they may invite others to share in their work. They may also refuse participation of others and no child may touch a working child or his work.

The writer is of the opinion that these disciplinary methods are rather idealistic but that we should strive to achieve them in kindergarten. Teachers are generally of the opinion that a quiet child is a disciplined child and while this is the case with some children, it is definitely not a valid opinion. If it were valid what would be the explanation for a teacher, after being called from a quiet room of working children for a short time, to return to an unruly classroom? Most teachers realise that a busy, interested child will stay out of trouble yet we do often return to a disorderly class. Perhaps teachers need a

---

[1] Ibid., p. 49.

lessen from Montessori in developing the qualities for self discipline in each child.

Another benefit to be utilized in the kindergarten is that of the individual's right to work alone. Because sharing and getting along with others are goals of kindergarten we often tend to forget the respect we must give to one's personality. Montessori recognized the prime importance of the child's personality. Too many times a child will ask another child if he may help with a certain task and if the child says no the other child either tells the teacher or becomes angry. On other occasions the writer has observed a child having difficulty with a task and another child volunteering to help only makes the situation worse.

Several times during the writing of this report, interested persons have stated a common mistaken attitude or misunderstanding of Montessori discipline. Some lay people and teachers who have read about Dr. Montessori believe that her method is based on a principle of complete freedom which they interpret as a lack of discipline. This misconception seems to be quite widespread.

The role of the teacher. Dr. Montessori preferred to use the term directress rather than teacher because the job is not so much to teach directly as to direct the child's continuous supply of energy into learning. Great emphasis was placed on the directress to set a good example.[1] Her role is to prepare the environment and to insure

---

[1]Ibid., p. 94.

all children in it an opportunity for achievement and success. She must anticipate their needs and develop new work. Through observation she must know when is the proper time to introduce new material to each individual. Her work is of no small importance and it calls for a high degree of intelligence. She should not interpose her personality between the learner and his subject.

In reference to the role of the teacher, Dr. Montessori said:

> She must watch the unfolding life, to discern which acts hinder and which aid its growth; judging, measuring, estimating, making note of disordered movements and those that express content of thought; learning how she may help but always keeping in mind that activity must come from within the child. Thus in a spirit of love, service and reverence she may help human souls in their struggles toward achievement of self.[1]

The teacher must also reinforce the child's sense of his own worth and interest him in continual challenges. Emphasis on individual work frees the child to work at his own pace, in his own way, on his own project, unhurried by adults and outside the rules of competition with others. A Montessori class allows the child to see that he has to make a choice.[2]

Perhaps teachers are too authoritative in the public schools of the present day and it might be well for each teacher to reevaluate her classroom procedures. The writer is of the opinion that public school teachers learn more of the individual personalities of the children than the Montessori teachers. Public school teachers use their own

---

[1]Maria Montessori, The Montessori Method, (New York: Frederick A. Stokes Co., 1912), p. 116.

[2]Rambusch, op. cit., p. 59.

personality to make the material more interesting and appealing to the children. From this interaction of personalities, we gain personal satisfaction which Montessori teachers do not expect to experience.

Daily class routine. Upon arrival in the first Montessori school established in the slums of Rome, the children were inspected for cleanliness. Their hands, fingernails, necks, ears, faces, and teeth were checked. Tidiness of hair was commented upon. Attention was called to tears, rips, soil, missing buttons, and dirty shoes to help children observe themselves and to take an interest in their appearance. Each child was allowed to take a bath once a week and they were given instructions on how to clean up with a water pitcher and basin on other days. After the children were checked they helped each other put on aprons and cleaned up the classroom. They used dust cloths, brooms, and other cleaning aids necessary to keep the room clean. The children then took their places for the morning prayers and hymns. The teacher praised individual children on cleanliness and commented on the quietness of specific children. At this time the children talked with the teacher of their own activities. They were encouraged by her to use topics adapted to pleasant conversations.[1] The remainder of the morning was spent with the apparatus. The lunch was served and the dishes cleaned up by the children themselves. In the afternoon opportunity was given for naps and for other activities such as gymnastics, outdoor play, gardening, and more time for the teaching apparatus.

---

[1]Montessori, op. cit., p. 121.

At High Lawn School, after hanging up their jackets and sweaters, the children chose activities from the shelves and went right to work. At one time during the morning, the teacher struck a chord on the piano and the children interested in singing came into the room near the piano. Other children went ahead with their work. After singing for about ten minutes, the entire group formed a line for group activities outside. The children were dismissed for outside free play before leaving at noon.

The atmosphere at High Lawn was relaxed and most children were occupied at their chosen task. Some children worked in small groups but most work was individual. Discipline was not as firm as had been expected by the observer, nor was the school as quiet as had been expected.

Limitations. Although there are many worthwhile components in this method of education, it is the feeling of the writer that we should be open-minded enough to admit that there are weaknesses. In adapting Montessori to the kindergarten or to any other classroom, the teacher should try to compensate for these shortcomings. She should be aware of them and try to minimize their effects on the children.

Evelyn Beyer states that the didactic materials focus too narrowly on the learning of specific concepts of size, texture, and shape with the assumption that the mastery of these is the only way to prepare for later skills. The materials are designed to be used in only one way, limiting delight in discovery or creating new uses. There is an absence of creative materials. There is an artificial focus on ritual and mastery of technique, rather than on function and delight in

the process as well as completion of a task. Also lacking, she feels, is the awareness of shutting out of the importance of feelings except those of satisfaction in correct and successful achievement. There are no real opportunities for social interaction, dramatic play or role playing.[1]

Some of these criticisms seem to be justified but the writer feels that many of these can be overcome by adapting the materials to our own needs and filling in with activities we feel to be of importance.

MONTESSORI MATERIALS

The importance Montessori gave to the training of the senses is perhaps the most distinguishing mark of the approach. She believed that there is a close relationship between the senses and the intellect and if the senses are neglected in the early years the intellect would not develop as it should. Her method develops finer methods of discrimination in many fields.

No one before Montessori had stressed the importance of the adaptation of school work to the individual child so much. She believed that anything which slowed down the child's development was dangerous so she encouraged pupils to work at their own rate and concentrate on what interested them. Montessori used school materials to develop latent abilities and to solve current problems. Each child was studied and observed individually before being taught anything.[2]

---

[1]Evelyn Beyer, "Let's Look at Montessori", Journal of Nursery Education, 18:8-9, November, 1962.

[2]Cole, op. cit., p. 566.

Presentation of materials. The lessons with the didactic materials are individual and brevity in presentation is a necessity. Dante gives excellent advice to teachers when he says, "Let thy words be counted".[1] Other qualities of the lessons are simplicity and objectivity. They must be presented in such a way that the personality of the teacher shall disappear and call attention only to the object being shown. The teacher merely demonstrates the material with as few words as possible so that the child will watch her hands rather than her face or mouth.

After the demonstration, the child attempts the exercise himself. The teacher observes to note the depth of the child's interest, his facial expression, and the length of his interest. If the child does not understand, he is not made to feel he has made a mistake, nor is the lesson repeated. A child in a Montessori school is never told that he is wrong.

It is necessary to teach the importance of doing even the small tasks well. The child begins to see order and acquires independence from working by himself. He learns to start and finish a job and understands what he can do. As Dr. Montessori says "competence breeds confidence".[2]

In deciding the correct timing for introduction of new material, the alert teacher will recognize and nurture sensitive periods.

---

[1]Maria Montessori, The Montessori Method, (Cambridge, Mass.,: Robert Bentley, Inc., 1965), p. 100.

[2]Rambusch, op. cit., p. 52.

"Sensitive periods are characterized by ease and delight in specific learning and by the real abandonment of the child in a chosen task. If these periods are missed or if a child is held back, difficulties can occur."[1]

> The materials are presented according to the lesson plan of Seguin: (a) association of the sensory perception with the name, (b) recognition of the objects by name, (c) remembering of the name which corresponds to the object. The procedure is from a few sharply contrasted objects to many with slighter shades of difference.[2]

The following is an example of the three steps of Seguin, used in a lesson on touch: (1) The teacher lightly draws the child's fingers on the sandpaper board saying, "This is rough". She draws the child's fingers over the smooth board saying, "This is smooth". (2) The teacher says, "Show me rough". "Show me smooth". (3) The teacher then points to them one at a time saying, "What is this?" If the child is correct he is left with the material; if he is not correct the teacher does not correct him or point out his error.

Materials for practical life. In speaking of the value of the practical exercises, Montessori said,

> We are inclined to believe that children are like puppets and we wash them and feed them like dolls. We do not stop to think that the child who does not do does not know how to do. He must, nevertheless, do these things. Nature has furnished him with the physical needs of carrying on these various activities and with the intellectual means for learning how to do them. Our duty toward him in every case, is that of helping him

---

[1]Emma M. Plank, "Reflections on the Revival of the Montessori Method", The Journal of Nursery Education, 17:133, May, 1962.

[2]Ward, op. cit., p. 68.

> to make a conquest of such useful acts as nature intended he should perform for himself.[1]

The first of the three classes of training in the Montessori system is the practical training. In order to be really free and independent, children must learn the skills of daily life. The exercises include such activities as dressing, buttoning, and tying one's own shoes. The children are taught household tasks as pouring liquid from a pitcher, polishing, proper ways to dust and sweep, and they are responsible for the care of the classroom. This stage also includes a playhouse of which the children take charge. The objects in the house are breakable so the children will learn to be careful.

The Montessori materials for teaching the lessons of practical life include a series of eight wooden frames measuring about ten by twelve inches. Each unit is smoothly finished and holds two pieces of colorful fabric with a series of fasteners to fit small fingers. These frames are designed to motivate the child to dress himself, to develop independence, to strengthen small fingers, to develop hand-eye coordination, and to hold attention. Two of the frames are for practice in buttoning both large and small buttons. Others teach zipping, buckling, bow-tying, lacing, snapping, and the use of the hook and eye. These materials are self-correcting and should the child make a mistake he recognizes this and can correct it himself.

---

[1]Elizabeth Harrison, "The Montessori Method and the Kindergarten", United States Bureau of Education Bulletin No. 28, 1914, p. 16.

Many activities of this type are found in the average kindergarten room. Children help with dusting, watering of plants, feeding of fish and classroom pets, and scrubbing tables. It might be worthwhile for teachers to consider other practical lessons for kindergarteners. The shoe polishing routine of value to most five year olds, would include putting down a paper, putting on an apron, spreading the polish, shining the shoes, cleaning up the mess, and all the while working hard to avoid getting polish on anything but the shoes.

Materials for development of the senses. Dorothy Canfield Fisher states that the didactic materials are to stimulate the child's desire to act and learn through action, to provide the child with action which will give him better control of his own body and with power and which shall lead him naturally from a single action to a more difficult one.[1] The purpose of the sensory material is not so much for new impressions but to give order to those impressions already received. True knowledge exists in ordered systems of related facts.[2]

Dr. Montessori believed that the home and school have not realized the importance and inter-relations of moter-sensory development. She also believed that sight and hearing had been overvalued and the tactile-muscular activities undervalued. The home and school have too seldom sought to know and correct curable defects and to plan systematic training exercises with suitable materials.[3]

---

[1]Dorothy Canfield Fisher, The Montessori Manual for Teachers and Parents, (Cambridge, Mass.: Robert Bentley, Inc., 1964), p. 21.

[2]E. M. Standing, The Montessori Method: A Revolution in Education, (Fresno, Calif.,: Academy Guild Press, 1962), p. 30.

[3]Ward, op. cit., p. 55.

Although Dr. Montessori's materials do not possess the creative possibilities that lie in the kindergarten toys and handwork, her materials do supply a recognized need for that stage of growth in the young child which demands activity for activity's sake and is not concerned so much with the kind of activity as with the desire to be doing something. This stage can develop into idle dawdling or destructiveness unless satisfied with materials easily handled and quickly mastered. If such material is provided it can be the beginning of an important habit - succeeding at what one undertakes.

To untrained observers in a kindergarten or a Montessori classroom it would appear that children are merely involved in play activities; however, as kindergarten teachers say, "Our play has a purpose". To a small child play is work and is his way of exploring and testing ideas. The most effective way of learning involves manipulation and self-improvement in a play-like situation.

Many activities are a part of Montessori's sense training. Exercises and experiments in tasting and smelling are included as well as sealed bells to develop pitch recognition and matching tones. Sound boxes are also a part of the sense training.

Lessons in texture include sandpaper and smooth board comparisons, different grades of sandpaper, and fabrics varying in texture from very fine to coarse. When a child is confident that he has mastered these exercises, he is permitted to try matching the similar textures when blindfolded.

Many lessons are involved with the cylinders and the blocks. Among the purposes of these activities are the early development of the sense of touch, sharpening of the sense of sight, discrimination of size and form, develops ideas of length, height, width, area, and volume, and stimulates development of spatial concepts. All of these activities can be a greater challenge when attempted blindfolded.

Other activities of interest and benefit to kindergarteners are scaled color tablets to develop awareness of color differences, color discrimination ability, and to increase appreciation of colors in the child's environment. The initial work involves naming the basic colors and the goal is to be able to sort the shades of each of the eight colors from the deep colors to the very soft tints.

In observation at High Lawn School the writer noted another sense exercise easily adaptable to the kindergarten. A blindfolded child was sitting before a basket of mixed nutmeats. Around the basket were five small dishes. The child picked up one nut at a time, felt it carefully, and placed it in one of the dishes. When the basket was empty, the nuts had been successfully sorted into the five dishes each holding one specific kind. In the kindergarten, this could be varied with the use of rough and smooth rocks, fruits, buttons, and numerous other items.

Materials for final phases. The third part of Montessori's educational program is devoted to the development of academic skills. The materials are presented only as the teacher notes a readiness and may not be used until then, and until demonstrated.

Explosion of manual dexterity into writing comprises the first part of this final stage. An "explosion" is defined by Madame Montessori as:

> A synthesis of abilities prepared separately and bursting out in a new activity never before attempted. Such explosions are prepared by purposeful, attractive and oft-repeated activities each easier than the final one.[1]

The sense training for writing begins formally with tracing sandpaper letters with fingers. When a child can do this correctly, he tries tracing the letters with his eyes closed or blindfolded. To gain pencil control, the child practices coloring outlines of pictures as well as tracing geometric shapes and filling in the shapes with a colored pencil. The child learns the sounds of the letters and is then given a box of cardboard letters. Words are made of the letters and the child develops a small vocabulary of words he can read and spell. The vowels are colored blue and the consonants are red and soon the child discovers that each word has at least one red letter. The teacher gives the child paper and pencil at the proper time and she dictates words giving the sound of each letter. An average four year old spends about six weeks at this stage before actual writing is developed.[2]

Additional materials are available to aid the explosion into reading and math concepts. Small and capital cardboard letters as well as word and phrase cards are employed for reading. Materials for

---

[1]Maria Montessori and Claude Clermont, "Montessori and the Deeper Freedom", Yearbook of Education, 1957, p. 417.

[2]Cole, op. cit., p. 570.

development of mathematical concepts include geometric shape insets, geometric solids, sandpaper numbers, number cards, counting discs, and many types of counting bars.

All the devices in this last phase are found in some form in most kindergartens. The writer believes that perhaps too much emphasis is placed upon them as toys and their importance as learning and teaching devices should be impressed upon children. Teacher demonstrations to children should be planned and carried through. Children lacking in readiness should not be deprived of manipulating these materials.

WHAT RESEARCH SAYS

Educational gains, if any, of Montessori pupils over youngsters taught conventionally have not been documented. Montessorians have not completed research on the method's learning value. Neither the N.E.A. nor the United States Office of Education has a formal stand on Montessori.[1]

Some educators in favor of the Montessori system have estimated its value. The children of Whitby School in Greenwich, Connecticut were estimated to be two years ahead of children attending private schools and three years ahead of those in the public schools.[2] A. J. Clark states that studies of the values of nursery schools seem to be inconclusive but the values of the Montessori Method seem to

---

[1] "What's so Special about Montessori Schools?", Good Housekeeping, 152:164, May, 1961.

[2] "Education", Time, May 12, 1961, p. 63.

show up.[1] In London, the Montessori students entering a traditional school were all advanced at least one grade.[2]

Stanley Krippner reported on an American investigation by W. P. Argy. In a two year program, Montessori teachers worked with forty brain damaged children and thirty-one others received orthodox education appropriate to their neurological injury. The experimental class used Montessori materials and the control class received the standard education used for brain damaged children. Improvements were significantly greater in the Montessori class than in the control class. They showed significant improvement in educational attainment, manual skills, and speech but not in ambulation. The control group made significant improvement only in educational attainment and that was not as marked as for the Montessori class.[3]

SUMMARY AND CONCLUSION

The literature was reviewed to gain insight into the feasibility of supplementing the kindergarten program with some of the materials and methods developed by Dr. Maria Montessori. This was attempted with the idea that perhaps some of these materials would help children develop a better readiness for reading and other first grade activities, and that by going deeper into readiness experiences parents and educators who are pushing the reading program into the kindergarten would be pacified.

---

[1]Clark, op. cit., p. 15.

[2]Morris, op. cit., p. 23.

[3]Stanley Krippner, "Evaluating Pre-Readiness Approaches to Reading", Education, 87:14, September, 1966.

SUMMARY

The review of literature and the visit by the writer to the High Lawn Montessori School in Shawnee Mission, Kansas revealed that though many adaptations of the Montessori materials are found in almost all kindergartens, there are others that would appear to be of benefit to five year olds. In addition to these materials, some of Dr. Montessori's methods deserve consideration and trial. Her ideas correspond surprisingly well with new ideas about early learning being developed by today's psychologists, behavioral scientists, neurologists, and educators.

Educators accept her belief that young children are capable of learning and also her belief in the importance and effectiveness of utilizing the child's sensory-motor impulses as aids in learning. Whatever the child hears, sees, and touches are important stimulants to learning. Kindergarten teachers see the importance of the prepared environment as essential in effective teaching and learning.

CONCLUSION

Observation in a Montessori school indicates the extent to which the modern progressive movement, with its emphasis upon freedom in the school, the natural development of children, and the use of instructional materials, is indebted to the work of Madame Montessori. It is regretable that people are unaware of her contributions and even though there is widespread acceptance of Montessori, the opposite extreme response is present too. It is apparent to the writer that an

intelligent assessment of Montessori is needed. After so doing, we can accept the ideas that are still valid and reject practices which in the light of what is known about children and psychology today, are no longer useful.

In view of the information gained, it is apparent that many activities already being utilized in the kindergartens are a development of Maria Montessori. In addition to the traditional Montessori materials, materials which would appear to be used advantageously in the kindergarten have recently been developed. These materials would be used to supplement those already in use and those available commercially, many could be easily and inexpensively by teachers.

If Montessori's insights can be adapted to the demands of public education, then the revival can make a permanent contribution to American education. The Montessori approach to independent activity through self-corrective didactic materials and the emphasis of individual development has been so successful with very young children that kindergarten teachers might do well to incorporate this into an appropriate kindergarten philosophy for American children. Her contribution of self-chosen and self-directed activities to intrinsic motivation is also invaluable. Another of her rewarding ideas was the use of specific activities or apparatus to correct or develop specific deficiencies.

Educators must modify tenets about creativity, discipline and teacher training to suit the needs of the American children and their environment. Stahl advocates the need for more structured training in

areas of perceptual skills, both visual and auditory, in the kindergarten and says that children need near-point vision training.[1]

Dr. Kenneth D. Wann, a specialist in early education at Teachers College, Columbia University is especially interested in adapting Montessori's work to American needs. He stated,

> Educators are viewing this as an opportunity to begin foundation work in the academic disciplines. This approach develops early math as well as early science and social science programs. It is aimed at laying the groundwork so important as the child moves through school.[2]

In addition to this he asserts,

> We can learn much from the Montessori Approach. It has some keys we have overlooked in this country. Children need to be challenged and will respond very positively to tasks they can do and results they can see immediately. Montessori has been considered too rigid because the materials must be used to demonstrate fixed concepts, but I feel this is offset by flexibility in other areas.[3]

The current educational climate is conducive to Montessori, particularly with the emphasis on Head Start and culturally deprived slum schools as that type of cultural deprivation was what she sought to alleviate. The sense-stimulating materials and step-by-step activities provide for perceptual and conceptual growth not possible in a dreary home environment. If these materials are made available at sensitive periods, they will foster maximum growth. Her goal was

---

[1]Betty Lou Stahl, "The Kindergarten's Responsibility", Illinois Education, 55:62, October, 1966.

[2]Kenneth Wann, "Kindergarten for Today's Children", Virginia Journal of Education, 60:25, September, 1966.

[3]"What's so Special about Montessori Schools?", Good Housekeeping, 158:65, May, 1964.

to help these children toward a more satisfactory adjustment to life and open for them the doors to future self-improvement.

Most educators agree with Montessori that until early education is made respectable in its own right, and not merely readiness for the supposedly real education which begins at six, there will be a continued waste of human potential and a corresponding need to build into existing school programs more remedial than preventive aspects.

SI INL IOC 198 PHY

BIBLIOGRAPHY

A. BOOKS

Cole, Luella, A History of Education: Socrates to Montessori, New York: Rinehart and Co., 1950.

Fisher, Dorothy Canfield, Montessori for Parents, Cambridge, Massachusetts: Robert Bentley, Inc., 1965.

_____. The Montessori Manual for Teachers and Parents, Cambridge, Massachusetts: Robert Bentley, Inc., 1964.

Montessori, Maria, The Absorbent Mind, Adyar, Madras, India: The Theosophical Publishing House, 1963.

_____. The Discovery of the Child, Adyar, Madras, India: Kalakshetra Publications, 1962.

_____. The Montessori Method, Cambridge, Massachusetts: Robert Bentley, Inc., 1965.

_____. The Montessori Method, New York: Frederick A. Stokes Co., 1912.

_____. The Montessori Elementary Material, Cambridge, Massachusetts: Robert Bentley, Inc., 1964.

_____. Dr. Montessori's Own Handbook, New York: Schocken Books, Inc., 1965.

_____. The Secret of Childhood, New York: Frederick A. Stokes Co., 1939.

_____. Spontaneous Activity in Education, Cambridge, Massachusetts: Robert Bentley, Inc., 1965.

Rambusch, Nancy M., Learning How to Learn: An American Approach to Montessori, Baltimore: Helicon Press, 1962.

Standing, E. M., The Montessori Method: A Revolution in Education, Fresno, California: Academy Guild Press, 1962.

_____. Maria Montessori: Her Life and Work, Fresno, California: Academy Guild Press, 1962.

Ward, Florence Elizabeth, The Montessori Method and the American School, New York: The Macmillan Co., 1913.

B. PERIODICALS

Alban, Mary, "The Montessori Method Applied!", Catholic School Journal, 61:23-6, December, 1961.

Baccus, Faye W., "Stop Preschool Dropouts", My Baby Magazine, 24:24-29, October, 1966.

Besch, Grace, "Montessori: Mania or Mainstay?", Instructor, 76:16, 112, December, 1966.

Boyer, Evelyn, "Let's Look at Montessori", Journal of Nursery Education, 18:4-9, November, 1962.

_____. "Montessori in the Space Age?", N.E.A. Journal, 52:35-6, December, 1963.

Burnett, A., "Montessori Education: Today and Yesterday", Volta Review, 65:235-9, May, 1963.

Clark, A. J., "Evaluation of Montessori Postulates in the Light of Empirical Research", Catholic Education Review, 61:7-15, January, 1963.

_____. "Montessori and Catholic Principles", Catholic Education Review, 60:73-81, February, 1962.

Denny, Terry, "Montessori Resurrected: How Much?", Education Forum, 29:436-42, May, 1965.

Edmonson, Barbara, "Let's do More than Look, Let's Research Montessori", Journal of Nursery Education, 19:36-41, November, 1963.

Gardner, Riley W., "A Psychologist Looks at Montessori", Elementary School Journal, 67:72-83, November, 1966.

Gonzaga, Mary, "Maria Montessori: Her Discoveries and Influence", Catholic School Journal, 64-33-7, October, 1964.

Hilliard, Lana G., "Montessori: Mania or Mainstay?", Instructor, 76:16, 112, December, 1966.

Hymes, J. L., "Montessori", Educational Leadership, 23:127, November, 1965.

Krippner, Stanley, "Evaluating Pre-Readiness Approaches to Reading", Education, 87:12-14, September, 1966.

Mangel, Charles, "Montessori: Education Begins at Three", Look, 29:61-7, January 26, 1965.

Martin, J. H., "Montessori After Fifty Years", Education Digest, 31:7-9, September, 1965.

Mills, William H., and Garry L. McDaniels, "Montessori - Yesterday and Today", Young Children, 21:137-41, January, 1966.

Montessori, Mario, "Maria Montessori's Contribution to the Cultivation of the Mathematical Mind", International Review of Education, 7:134-41, 1961.

_____, and A. S. Neill, "A Dialogue about Child Rearing", Redbook, 124:42-3+, December, 1964.

Morris, J. A., "Can Our Children Learn Faster?", Saturday Evening Post, 234:17-25, September 23, 1961.

Plank, E. N., "Reflections on the Revival of the Montessori Method", Journal of Nursery Education, 17:131-6, May, 1962.

Pinson, Penelope, "Yesterday's Prophet: Maria Montessori", Parents Magazine, 40:18, September, 1965.

Rambusch, Nancy M., "The Montessori Approach to Learning", National Catholic Education Association Bulletin, 58:320-2, May, 1961.

Spock, Benjamin, and Mildred L. Hathaway, "Montessori and Traditional American Nursery Schools - How They are Different, How They are Alike", Redbook, 128:20-28, March, 1967.

Spodek, Bernard, "Montessori Education Visited", Elementary English, 42:75-9, January, 1965.

Stahl, Betty Lou, "The Kindergarten's Responsibility", Illinois Education, 55:62-3, October, 1966.

Stendler, Celia, "The Montessori Method", Education Forum, 29:431-5, May, 1965.

Wakin, Edward, "The Return of Montessori", Saturday Review, 47:61-3, November 21, 1964.

Wann, Kenneth, "Kindergarten for Today's Children", Virginia Journal of Education, 60:24-7, September, 1966.

"An Intellectual Leap", Newsweek, 61:106+, June 24, 1963.

"Education", Time, 77:63, May 12, 1961.

"What's so Special about Montessori Schools?", Good Housekeeping, 158:164-5, May, 1964.

"Why Kindergarten is so Important", Good Housekeeping, 160:149, February, 1965.

C. PUBLICATIONS OF THE GOVERNMENT, LEARNED SOCIETIES, AND OTHER ORGANIZATIONS

Harrison, Elizabeth, "The Montessori Method and the Kindergarten", United States Bureau of Education Bulletin, Number 28, 1914.

Jerome Study Group, Montessori in the Home, Bethesda, Maryland: Elad Enterprises, October, 1963.

Smith, Anna Tolman, "The Montessori System of Education", United States Bureau of Education Bulletin, Number 17, 1912.

Montessori, Mario and Claude Clermont, "Montessori and the Deeper Freedom", Yearbook of Education, 1957, Pp. 414-426.

METHODS AND MATERIALS OF MARIA MONTESSORI TO USE IN KINDERGARTEN

by

RUTH ANN SIMPSON

B. S., Kansas State University, 1963

AN ABSTRACT OF A MASTER'S REPORT

submitted in partial fulfillment of the

requirements for the degree

MASTER OF SCIENCE

College of Education

KANSAS STATE UNIVERSITY
Manhattan, Kansas

1967

The purpose of this study was to determine whether any of the methods or materials of Maria Montessori could be utilized successfully in the kindergarten.

A review of literature was made with emphasis of the following areas: (1) history of the Montessori Movement in both Europe and the United States, (2) types of materials used in Montessori Schools, and (3) Montessori's methods of handling children.

In addition to the review of literature, the writer visited the High Lawn Montessori School in Shawnee Mission, Kansas to gain further insight into this approach to education.

The procedure was to study the information collected and to propose materials and methods to incorporate into the present kindergarten program.

As a result of this study it is evident that adaptations of Maria Montessori's materials and methods are currently being used in the kindergarten without credit being given to her. Numerous other materials developed by Madame Montessori could be very easily adapted to the kindergarten classroom, thus adding interest and motivation for the children. Teachers interested in using any of the Montessori materials and methods can adapt the elements they believe in most.

Montessori believed in the value of early education for young children and was convinced that a child must be stimulated for learning at sensitive periods and if this is not done, the child may lose interest. Her method emphasizes free activity, individual instruction, early development of reading and writing skills, and extensive sensory and motor training.